

## A NEW FOSSIL TERMITE, *PARASTYLOTERMES FRAZIERI*, FROM CALIFORNIA

(ISOPTERA, RHINOTERMITIDAE)

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Except for fossilized pellets of excreta of *Kaloterмес* and *Zootermopsis* in southern California and of *Kaloterмес* in southern Florida from Quaternary (Pleistocene) formations, all evidences of fossil termites in the United States have been discovered in Tertiary rock. Included are termite borings recently found in petrified coniferous wood from Miocene formations of Idaho, Oregon and Washington.

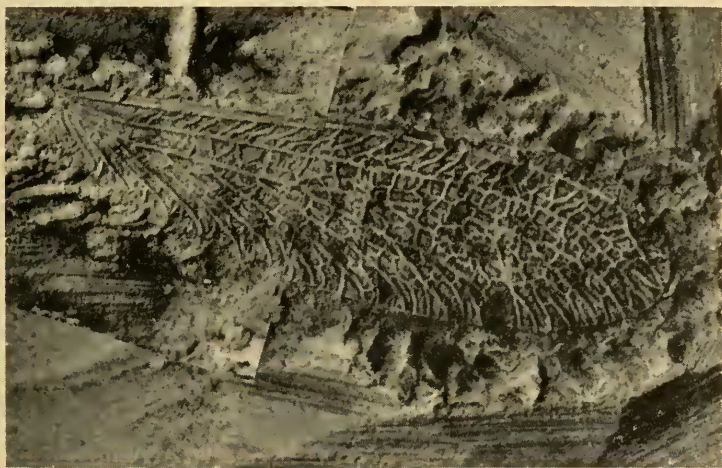


Fig. 1. Forewing of *Parastylotermes frazieri* new species in limestone concretion. Enlarged 6 times.

To date, 9 species in 4 families and 7 genera have been described from Eocene or Miocene strata in Tennessee, Colorado and Washington. No species of the highly specialized family Termitidae so far have been represented as fossils in the United States.

The portion of the termite wing which is described in this paper was found in a gray nodule of calcium carbonate (approx. 80 mm. by 70 mm.) in Miocene or older calcareous shale strata, immediately below the principal colemanite horizon, age at least 25 million years. Chironomid flies and thrips were other fossil insects found in this deposit, where disarticulated fish and coprolites indicate a more or less permanent prehistoric lake.

I am indebted to Dr. Allison R. Palmer of the U. S. Geological Survey for the opportunity to examine this fossil wing.

***Parastylotermes frazieri*, new species**

*Wing.* Forewing? (fig. 1). Subcostal vein joined to the costal margin by numerous vertical short veinlets. Wing membrane strongly reticulated with accessory veinlets arising vertically from main nervures. Median vein free from stump, single, but slightly closer to cubitus than to subcosta, with numerous vertical, relatively short veinlets. Cubitus with many closely placed, branching branchlets to posterior margin of the wing. All veins are prominent and thickened. Wing scale absent.

Length of wing approximately 10.00 mm., broken, the pieces separated.

Width of wing at widest portion 3.00 mm.

*Type locality:* Old Frazier Borax Mine northwest of Frazier Mountain, west of Lebec in Mt. Pinos quadrangle, Ventura Co., Cal.

*Holotype:* Forewing?—Cat. No. 62383, U. S. National Museum. Collected by T. H. McCulloh, U. S. Geological Survey, in March 1954.

Two other species of the fossil genus *Parastylotermes* Snyder and Emerson have been found: *washingtonensis* (Snyder) from the Upper Miocene Latah shale of the state of Washington and *robustus* (von Rosen) in Lower Oligocene or Upper Eocene Baltic amber. *P. washingtonensis* has the median vein closer to the cubitus than in *frazieri*.

The closely related living genus, *Stylotermes* Holmgren, contains only one species, *fletcheri* Holmgren, which occurs in south India.

**BOOK REVIEW**

**MATURE LARVAE OF THE BEETLE FAMILY ANOBIIDAE**, by Adam G. Böving. Biologiske Meddelelser, vol. 22, no. 2, Copenhagen, Denmark, 1954. 298 pp., 50 plates. May be purchased from Ejnαι Munksgaard, Nørregade 6, Copenhagen K, Denmark. Price: 35 kroner.

In this work on anobiid larvae Dr. Böving has enhanced his already well-founded reputation as an authority of immature stages of the Coleoptera. Seldom has there been a more critical or exhaustive study made of a group of insects. The published result can not fail to help give studies of immature insects the important role in insect taxonomy that they deserve.

The book is divided into two main sections or chapters. The first of these contains a detailed description of the internal as well as the external anatomy, with careful attention given to the musculature. The second chapter treats the taxonomy of the available larvae of the family. The key to the species is preceded by a family characterization, and an important consideration of the natural groups based on larval characters. Following the key, the species are taken up in order with complete descriptions and references to figures. There are 50 plates containing 572 figures, each prepared carefully and accurately. A very complete index is supplied.

Dr. Böving and the Royal Danish Academy of Sciences and Letters are to be congratulated on the fine appearance of the work. The arrangement of the text by the editor and the reproduction of the drawings are excellent.—W. H. ANDERSON, *Agricultural Research Service, Washington, D. C.*